

## ABSTRACT OF THE DISCLOSURE

A doubly balanced upconverter mixer includes a local oscillator balun circuit comprising juxtaposed foil elements on opposite sides of an insulated substrate with electrical interconnections between the foil elements. An IF balun circuit also comprises series tuned and parallel tuned foil elements on opposite sides of the substrate in juxtaposition to each other. A diode switching network interconnects the baluns. A local oscillator signal is connected to the foil elements of the local oscillator balun circuit, an RF signal is coupled to one foil element of the IF balun circuit and an IF signal is taken from the other foil element of the IF balun circuit. Another embodiment incorporates MESFET type switches, the gates of which are supplied directly with a symmetrical local oscillator signal. This arrangement eliminates the need for the local oscillator balun.